

A New Kind of Storm Water Pond

May 5, 2009

Click to EnlargeIn compliance with government regulations, builders in many regions must include a retention or storm water pond in community project planning. As a result, many American communities include storm water ponds. Within a few short years, however, these ponds can become problematic as they fill with cattails, algae and organic waste material.

Maryland Aquatics Nurseries Inc. recently took on the job of rehabilitating one such pond in a large community on Maryland's Eastern shore. "A neighbor remarked that you could actually hear the methane bubbles pop," said Dick Schuck, owner of Maryland Aquatic in Jarrettsville. "It also smelled foul."

Click to EnlargeThe company used two basic devices in this project. First, the six-person crew installed one diffuser aeration system for every .25 acre of pond surface area. The pond's appearance noticeably improved almost immediately.

The second device, Maryland Aquatics' Floating Wetlands, proved instrumental in beautifying the project and maintaining an eco-friendly solution, Schuck said. The foam-based rafts grow plants that consume nutrients via biomass conversion and possibly through microbial activity located within the roots dangling beneath the raft.

The team installed eight wetlands for each .25 acre, coming out to 32 devices providing about 4 percent coverage. This eliminated up to 20 percent of the pond's nitrogen.

Click to Enlarge“Ideally, placement of more units would create an even more dramatic transformation,” Schuck said. “Twenty percent coverage is the goal.”

The completed project showed impressive results. The algae disappeared almost immediately and the pond became a beautiful attraction instead of an eyesore. Following the initial success, Maryland Aquatics signed a contract to rehabilitate the other community ponds.

Though builders are not required to beautify, a modest investment in storm water ponds' aesthetics might prevent future health and safety problems. It also might provide a significant return on investment for builders in securing prospective construction projects.

Specifications

Designer: Dick Schuck

Installer: Maryland Aquatic Nurseries Inc.

Contact information: 3427 N. Furnace Road, Jarrettsville, MD 21084; 410-557-7615; www.marylandaquatic.com

Project location: Easton Club on Maryland's Eastern shore

Size: Five 1-acre ponds

Components: Four EasyPro diffuser aeration systems with a Gast compressor (\$6,000), 32 floating wetlands (\$20,000) and a once-yearly biomass harvest (\$2,000).

Time to complete: about 32 hours

Overall cost: \$28,000 for the first year. The average maintenance cost per year, assuming a 10-year life, is \$3,000.